

We claim:

1. A method comprising:

a first device coupled to a network sending a request to a second device coupled
5 to the network to access a traditional instrument, wherein the traditional instrument is
coupled to the second device via an instrumentation bus, wherein the traditional
instrument does not include inherent Internet capabilities, and wherein the second device
comprises an instrument server;

the instrument server receiving the request to access the traditional instrument;

10 the instrument server accessing the traditional instrument via the instrumentation
bus in response to said request to access the traditional instrument;

the traditional instrument sending instrument data to the server device via the
instrumentation bus in response to the instrument server accessing the traditional
instrument;

15 the instrument server receiving the instrument data sent from the traditional
instrument via the instrumentation bus; and

the instrument server sending the instrument data to the first device via the
network.

20 2. The method of claim 1, further comprising, prior to said first device sending the
request to the second device, connecting the traditional instrument to the second device.

3. The method of claim 1, further comprising displaying on the first device a
graphical user interface to the traditional instrument coupled to the second device,
25 wherein the graphical user interface is operable by the user to remotely control
functionality of the traditional instrument from the second device.

4. The method of claim 1, further comprising:

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the first device receiving the instrument data from the instrument server via the network; and

displaying the received instrument data on the first device

5 5. The method of claim 4, wherein the first device comprises a web browser, wherein said displaying the instrument data on the first device is performed by the web browser, wherein the instrument data is displayed by the web browser in one or more web pages provided by the instrument server.

10 6. The method of claim 1, wherein the request to access the traditional instrument is generated in response to user input on the first device.

15 7. The method of claim 1, wherein the first device comprises a web browser, wherein the request to access the traditional instrument is generated in response to user input to the web browser program.

20 8. The method of claim 7, wherein the user input that generates the request to access the traditional instrument is received by the web browser in a web page provided by the instrument server.

9. The method of claim 8, wherein the web page provides a graphical user interface to the traditional instrument coupled to the second device.

25 10. The method of claim 1, wherein the instrument server accessing the traditional instrument comprises:

the instrument server accessing an instrument driver for the traditional instrument; and

the instrument driver accessing the first instrument via the instrumentation bus in response to the instrument server accessing the instrument driver.

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11. The method of claim 10, wherein, prior to the instrument server accessing the instrument driver, the method further comprises the second device receiving the instrument driver from the first device.

5 12. The method of claim 10, wherein, prior to the instrument server accessing the instrument driver, the method further comprises downloading the first instrument driver from a third device to the second device via the network.

13. The method of claim 1, wherein the instrument server accessing the traditional instrument comprises the instrument server requesting the instrument data from the traditional instrument.

14. The method of claim 1, wherein the request to access the traditional instrument includes information requesting the traditional instrument to perform one or more actions, and wherein the instrument data is generated from the traditional instrument performing at least part of the requested one or more actions.

15. The method of claim 1, further comprising, prior to the first device sending the request to access the traditional instrument:
20 the instrument server providing instrument information about one or more traditional instruments coupled to the second device to the first device through the network, wherein the one or more traditional instruments include the traditional instrument; and

displaying the instrument information about the one or more traditional instruments on the first device.

16. The method of claim 15, further comprising:
receiving user input on the first device selecting the traditional instrument from the displayed instrument information about the one or more traditional instruments prior to the first device sending the request to access the traditional instrument.

17. The method of claim 15, wherein the first device comprises a web browser, wherein said displaying the instrument information about the one or more traditional instruments on the first device is performed by the web browser.

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18. The method of claim 1, wherein a plurality of traditional instruments including the traditional instrument are coupled to the second device via the instrumentation bus, and wherein the first device is operable to send requests to access each of the plurality of traditional instruments to the second device.

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19. The method of claim 1, further comprising:

the instrument server scanning the instrumentation bus to detect instruments coupled to the instrumentation bus;

said scanning detecting one or more traditional instruments coupled to the instrumentation bus including the traditional instrument; and

the instrument server receiving instrument information from each of the detected one or more traditional instruments; and

the instrument server providing the instrument information from the one or more detected traditional instruments to the first device;

wherein the one or more traditional instruments are user-selectable from the first device using the instrument information.

20. The method of claim 1, wherein there are one or more other devices coupled to the network, and wherein the second device is operable to receive requests to access the traditional instrument from the one or more other devices.

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21. The method of claim 1, wherein the instrumentation bus is one of a GPIB instrumentation bus, a PCI instrumentation bus, a PXI instrumentation bus, and a serial instrumentation bus.

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22. The method of claim 1, wherein the network is the Internet.

23. A method comprising:

5 scanning an instrumentation bus coupled to a first device to detect instruments coupled to the instrumentation bus;

said scanning detecting a first traditional instrument coupled to the instrumentation bus, wherein the first traditional instrument does not include inherent Internet capabilities;

10 receiving instrument information from the detected first traditional instrument;

providing the instrument information of the first traditional instrument to a second device coupled to the first device via a network; and

displaying the instrument information of the first traditional instrument on the second device;

15 wherein the first traditional instrument coupled to the first device via the instrumentation bus is remotely accessible from the second device to initiate monitor and control functions of the first traditional instrument.

24. The method of claim 23, wherein the second device comprises a web browser program, wherein said displaying the instrument information comprises the web browser program displaying the instrument information in a web page.

25. The method of claim 23, further comprising:

25 receiving user input on the second device, wherein the user input specifies the first traditional instrument; and

sending a request to access the first traditional instrument from the second device to the first device through the network in response to the user input.

26. The method of claim 25, further comprising:

the first device sending a user interface specification for the first traditional instrument to the second device via the network in response to the request to access the first traditional instrument; and

displaying on the second device a user interface to the first traditional instrument
5 in accordance with the user interface specification.

27. The method of claim 26, wherein the user interface specification includes one or more web pages displayable by a web browser on the second device.

10 28. The method of claim 23, wherein said scanning detects a plurality of traditional instruments including the first traditional instrument coupled to the first device via the instrumentation bus, and wherein said receiving the instrument information, said providing the instrument information, and said displaying the instrument information are performed for the plurality of traditional instruments.

15 29. The method of claim 23, wherein there are one or more other devices coupled to the network, wherein the method further comprises providing the instrument information of the first traditional instrument to the one or more other devices, and wherein the first traditional instrument coupled to the first device via the instrumentation bus is remotely
20 accessible from the one or more other devices to initiate monitor and control functions of the first traditional instrument.

30. The method of claim 23, wherein said scanning, said receiving, and said providing are performed by an instrument server executable on the first device.

25 31. The method of claim 23, wherein, after said detecting the first traditional instrument, the method further comprises downloading an instrument driver for the first traditional instrument from another device to the first device via the network.

30 32. The method of claim 23, wherein the network is the Internet.

33. A method for providing Internet capabilities to a traditional instrument, wherein the traditional instrument does not inherently include Internet capabilities, the method comprising:

connecting the traditional instrument to a first device, wherein the first device includes an Internet server; and

connecting the first device to the Internet;

wherein the Internet server provides web pages accessible from other devices connected to the Internet, wherein the web pages include one or more web pages configured for use in accessing the traditional instrument connected to the first device.

34. The method of claim 33, wherein said accessing the traditional instrument includes sending command instructions to the traditional instrument and receiving and displaying instrumentation data from the traditional instrument.

35. The method of claim 33, further comprising:

accessing the Internet server from a second device connected to the Internet; and

displaying one or more of the web pages provided by the Internet server in a web browser on the second device;

wherein the displayed one or more web pages include information configured for use in accessing the traditional instrument from the second device.

36. The method as recited in claim 33, further comprising:

accessing the Internet server from a second device connected to the Internet; and

displaying in a web browser on the second device at least one of the one or more web pages configured for use in accessing the traditional instrument connected to the first device.

37. The method as recited in claim 33, wherein the one or more web pages configured for use in accessing the traditional instrument connected to the first device each include interface items for the traditional instrument, wherein the interface items of a particular web page include one or more of control items and display items;

5 wherein the control items are user-selectable to send control instructions to the traditional instrument; and

wherein the display items are configured for use in displaying data received from the traditional instrument.

10 38. A device comprising:

a first port operable to couple to a network;

a second port operable to couple to an instrumentation bus;

a processor; and

15 memory operable to store program instructions, wherein the program instructions are executable by the processor to:

receive from another device coupled to the network a request to access a traditional instrument coupled to the instrumentation bus, wherein the traditional instrument does not include inherent Internet capabilities;

20 access the traditional instrument via the instrumentation bus in response to said request to access the traditional instrument;

receive instrument data sent from the traditional instrument via the second port; and

send the instrument data to the other device via the first port.

25 39. The device of claim 38, wherein the program instructions are further executable by the processor to provide to the other device a graphical user interface for the traditional instrument, wherein the graphical user interface is executable within the other device to initiate monitor and control functions of the traditional instrument from the
30 other device and to display the received instrument data.

40. The device of claim 39, wherein the graphical user interface comprises one or more web pages displayable by a web browser on the other device.

41. The device of claim 38, wherein the device further comprises an instrument driver for the traditional instrument, wherein, in said accessing the traditional instrument via the instrumentation bus, the program instructions are further executable by the processor to:

access the instrument driver for the traditional instrument; and

wherein the instrument driver is executable by the processor to access the traditional instrument via the instrumentation bus in response to said accessing the instrument driver; and

wherein, in said receiving the instrument data sent from the traditional instrument via the second port, the program instructions are further executable by the processor to receive the instrument data from the instrument driver.

42. The device of claim 38, wherein, in said accessing the traditional instrument via the instrumentation bus, the program instructions are further executable by the processor to request the instrument data from the traditional instrument.

43. The device of claim 38, wherein the instrumentation bus is one of a GPIB instrumentation bus, a PCI instrumentation bus, a PXI instrumentation bus, and a serial instrumentation bus.

44. The device of claim 38, wherein the network is the Internet.

45. A device comprising:

a first port operable to couple to a network;

a second port operable to couple to an instrumentation bus;

a processor; and

memory operable to store program instructions, wherein the program instructions are executable by the processor to:

scan the instrumentation bus coupled to the second port to detect a traditional instrument coupled to the instrumentation bus, wherein the traditional instrument does not include inherent Internet capabilities;

receive instrument information from the detected traditional instrument via the second port; and

send the instrument information of the traditional instrument to another device coupled to the network;

wherein the traditional instrument coupled to the device via the instrumentation bus is remotely accessible from the other device to initiate monitor and control functions of the traditional instrument.

46. The device of claim 45, wherein the program instructions are further executable by the processor to provide to the other device a graphical user interface for the traditional instrument, wherein the graphical user interface is executable within the other device to display the received instrument information.

47. The device of claim 46, wherein the graphical user interface comprises one or more web pages displayable by a web browser on the other device.

48. The device of claim 45, wherein said scanning detects a plurality of traditional instruments including the traditional instrument coupled to the device via the instrumentation bus, and wherein the program instructions are further executable by the processor to:

receive instrument information from each of the detected plurality of traditional instruments via the second port; and

send the instrument information of the plurality of traditional instruments to the other device via the network.

49. The device of claim 45, wherein, after said detecting the traditional instrument, the program instructions are further executable by the processor to download an instrument driver for the traditional instrument from the other device to the device via the network.

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50. The device of claim 45, wherein the instrumentation bus is one of a GPIB instrumentation bus, a PCI instrumentation bus, a PXI instrumentation bus, and a serial instrumentation bus.

10 51. The device of claim 45, wherein the network is the Internet.

52. A device comprising:

a first port operable to couple to a network;

15 a processor; and

memory operable to store program instructions, wherein the program instructions are executable by the processor to:

receive instrument information from another device coupled to the network, wherein the instrument information describes one or more traditional instruments coupled to the other device via an instrumentation bus, wherein the one or more traditional instruments do not include inherent Internet capabilities;

display the instrument information on the second device;

receive user input selecting a first traditional instrument of the one or more traditional instruments from the displayed instrument information; and

25 receive user input specifying one or more instructions to be sent to the other device via the network;

wherein the one or more instructions sent to the other device are configured to monitor and control the first traditional instrument from the device.

53. The device of claim 52, wherein the program instructions comprise a web browser, and wherein said receiving the instrument information, said displaying the instrument information, said receiving user input selecting the first traditional instrument, and said receiving user input specifying the one or more instructions are performed in one or more web pages displayed by the web browser.

54. The device of claim 52, wherein the program instructions are further executable within the device to:

receive instrument data sent from the other device; and

display the received instrument data;

wherein the instrument data is generated by the first traditional instrument on the other device in response to the one or more instructions.

55. The system of claim 54, wherein the program instructions comprise a web browser, and wherein the web browser is executable within the device to display the received instrument data on one or more web pages.

56. A system comprising:

a first device operable to couple to a network and to an instrumentation bus;

a second device operable to couple to the network;

one or more traditional instruments operable to couple to the instrumentation bus, wherein the one or more traditional instruments do not include inherent Internet capabilities;

first program instructions executable within the first device to:

detect the one or more traditional instruments coupled to the instrumentation bus; and

provide instrument information of the one or more traditional instruments to the second device via the network;

second program instructions executable within the second device to:

display the instrument information on the second device;
select a first traditional instrument of the one or more traditional
instruments from the displayed instrument information; and
send requests to the first device via the network to monitor and control the
5 first traditional instrument from the second device.

57. The system of claim 56, wherein the first program instructions are further
executable within the first device to:

receive the requests sent by the second program instructions executing within the
10 second device;
direct the first traditional instrument to perform the received requests;
receive instrument data generated by the first traditional instrument performing
one or more of the received requests; and
send the received instrument data to the second device via the network.

58. The system of claim 56, further comprising an instrument driver for the first
traditional instrument;

wherein, in said directing the first traditional instrument to perform the received
requests, the first program instructions are further executable within the first device to
20 direct the instrument driver to perform the received requests;

wherein the instrument driver is executable within the first device to:
direct the first traditional instrument to perform the received requests via
the instrumentation bus; and
receive the instrument data from the first traditional instrument via the
25 instrumentation bus;

wherein, in said receiving the instrument data generated by the first traditional
instrument, the first program instructions are further executable within the first device to
receive the instrument data from the instrument driver.

59. The system of claim 58, wherein the first program instructions are operable to download the instrument driver from the second device after the second program instructions perform said selecting the first traditional instrument.

5 60. The system of claim 58, wherein the second program instructions are further executable within the second device to:

receive the instrument data sent from the first device; and

display the received instrument data on the second device.

10 61. The system of claim 60, wherein the second program instructions comprise a web browser, and wherein the web browser is executable within the second device to display the received instrument data on one or more web pages, and wherein the first program instructions are operable to provide the one or more web pages to the web browser in response to said selecting the first traditional instrument.

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62. The system of claim 56, wherein the second program instructions are further executable within the second device to receive user input specifying the requests to be sent to the first device.

20 63. The system of claim 62, wherein the second program instructions comprise a web browser, and wherein the web browser is executable within the second device to receive the user input specifying the requests in one or more web pages, and wherein the first program instructions are operable to provide the one or more web pages to the web browser in response to said selecting the first traditional instrument.

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64. The system of claim 56, wherein the network is the Internet.

30 65. A carrier medium comprising program instructions, wherein the program instructions are computer-executable to implement:

68. A carrier medium comprising program instructions, wherein the program instructions are computer-executable to implement:

scanning an instrumentation bus coupled to a first device to detect instruments coupled to the instrumentation bus;

5 said scanning detecting a first traditional instrument coupled to the instrumentation bus, wherein the first traditional instrument does not include inherent Internet capabilities;

receiving instrument information from the detected first traditional instrument;

10 providing the instrument information of the first traditional instrument to a second device coupled to the first device via a network; and

displaying the instrument information of the first traditional instrument on the second device;

15 wherein the first traditional instrument coupled to the first device via the instrumentation bus is remotely accessible from the second device to initiate monitor and control functions of the first traditional instrument.

69. The carrier medium of claim 68, wherein the program instructions are further computer-executable to implement:

20 receiving user input on the second device, wherein the user input specifies the first traditional instrument; and

sending a request to access the first traditional instrument from the second device to the first device through the network in response to the user input.